

Notice of Allowability

Application No.

10/527,566

Applicant(s)

HARADA ET AL.

Examiner

Art Unit

Felisa C. Hiteshew

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on July 24, 2007.
2. ☒ The allowed claim(s) is/are 1-17.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

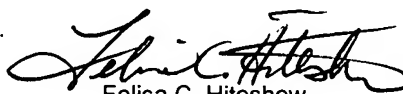
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


Felisa C. Hiteshew
Primary Examiner
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Oath/Declaration

1. Applicant is now required to submit a substitute declaration or oath to correct the deficiencies set forth. The Japanese foreign application should be 09/18/2002 and not 09/18/2003. The substitute oath or declaration must be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability" (PTO-37).

Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136.

Failure to timely file the substitute declaration (or oath) will result in **ABANDONMENT** of the application. The transmittal letter accompanying the declaration (or oath) should indicate the date of the "Notice of Allowance" (PTOL-85) and the application number in the upper right hand corner.

Allowable Subject Matter

1. Claims 1-17 are allowed.

2. The following is an examiner's statement of reasons for allowance: The most relevant prior art of reference is that of U.S. Patent No. 6, 379,460 B1 (Harada, et al). However, it does not teach nor fairly suggest singularly or in any combination thereof a heat shielding member of a silicon single crystal pulling-up device which is provided in a device which pulls up a silicon single crystal rod from a silicon melt which is stored in a quartz crucible which is heated by a heater surrounding the outer peripheral face of the quartz crucible and equipped with a tube portion whose lower end is situated upward at an interval from the surface of the silicon melt and which shields radiant heat from the heater surrounding the outer peripheral face of the silicon single crystal rod, a swelling portion which is provided at the lower portion of the tube portion by being swollen to a

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tube direction, and a ring-shape heat accumulating portion which is provided at the inside of the swelling portion and surrounds the outer peripheral face of the lower portion of the silicon single crystal rod and the diameter (d) of the silicon single crystal rod is 100 mm or more, wherein the heat accumulating portion consistently essentially of alumina, having a thermal conductivity of $5 \text{ W/(m} \times ^\circ\text{C)}$ or less, and the heat accumulating portion has an inner peripheral face which is in parallel to the axial line of the silicon single crystal rod, or is slanted at an angle of -30 degrees or more and $+30$ degrees or less and is formed so that, the inner peripheral face of the heat accumulating portion is a height (H1) of 10 mm or more and $d/2$ or less, and the minimum distance (W1) between the outer peripheral face of the silicon single crystal rod and the inner peripheral face of the heat accumulating portion is 10 mm or more and $0.2d$ or less.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Felisa Hiteshew whose telephone number is (571) 272-1463. The examiner can normally be reached on Mondays through Thursday from 5:30 AM to 4:00 PM with Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta, can be reached on (571) 272-1316. The

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fax phone number for the organization where this application or proceeding is assigned is (571) 273-1463.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866- 217-9197 (toll-free).

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FELISA HITESHEW
PRIMARY EXAMINER